Claims

We claim:

1. A hybrid collector comprising;

a primary mirror for producing reflected full spectrum solar radiation,

a secondary mirror supported in position for receiving said reflected full spectrum solar radiation and further reflecting said full spectrum radiation onto a fiber receiver, said fiber receiver further comprising;

a receiver housing,

a filter removably disposed in said receiver housing,

a quartz rod removably disposed in said receiver housing,

a fiber at least partially disposed in said housing and engaged with said quartz rod, said fiber further transmitting said solar radiation to a distribution system.

2. The hybrid collector of Claim 1 wherein said secondary mirror is supported by a secondary mount further comprising;

a non-rigid structure that blocks less than 5% of said reflected full spectrum solar radiation and maintains predetermined optical distances.

3. A fiber receiver comprising;

a receiver housing,

a filter removably disposed in said receiver housing,

a quartz rod removably disposed in said receiver housing,

a fiber at least partially disposed in said housing and engaged with said quartz rod, said fiber further transmitting light to a light distribution system.

4. A hybrid luminaire comprising;

a luminaire housing,

at least one electric light source removably disposed in said luminaire housing,

at least one fiberoptic light source removably disposed in said luminaire housing, said fiberoptic light source further comprising;

a cylindrical diffusing rod having an entrance end, exit end, and surface hemisphere with a lower portion and upper portion,

a polished lower hemisphere,

a coated upper hemisphere, and

a coated concave mirror surface disposed on said exit end of said rod.

5. A hybrid luminaire comprising;

a luminaire housing,

at least one electric light source removably disposed in said luminaire housing,

at least one fiberoptic light source removably disposed in said luminaire housing, said fiberoptic light source further comprising;

a diffuse reflective film attached to said luminaire housing,

a side-emitting diffusing rod having an entrance end and exit end,

a large core fiber engaged with said entrance end, and

at least one optical fiber engaged with said exit end of said diffusing rod, said at least one optical fiber routed back into the central portion of said luminaire housing.

6. A hybrid luminaire comprising;

a luminaire housing,

at least one electric light source removably disposed in said luminaire housing,

at least one fiberoptic light source removably disposed in said luminaire housing,

at least one photosensor for sensing spatial light intensity, and

a means for controlling the intensity of the electric light source to a predetermined spatial light intensity constant.

7. A daylight harvesting controller comprising;

a sensor producing an input signal to said controller, said input signal being proportional to spatial light intensity,

an integrated circuit producing an output signal, said output signal conditioned to control at least one spatial light emitter to maintain a spatial light intensity constant.

8. The controller of Claim 7 wherein said sensor is a photodiode.

9. The controller of Claim 7 wherein said integrated circuit further comprises a means for;

determining peak-to-peak amplitude of said input signal,

determining average DC voltage of input signal, and

modulating the output signal to control ballast voltage.

10. The controller of Claim 7 wherein said spatial light emitter is a hybrid luminaire.